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On optimal frequencies for reconstruction of a one-dimensional profile of gradient layer's refractive index

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Abstract

© 2014 Dmitrii Tumakov.The problem of reconstruction of a one-dimensional profile of gradient layer's refractive index is investigated. An algorithm for choosing a right frequency, at which a scattered field ismeasured, is proposed. It is concluded that at the correct choice of frequency onemeasurementmust be sufficient. Moreover, in this case, regularization parameters of the residual functional are chosen as zero. It is shown that in case of measurements being carried out with errors, residual terms must be added to the functional.

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